



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** 2002AK5B

**Title:** Investigation of Fouling in Membrane Bioreactors for Wastewater Treatment

**Project Type:** Research

**Focus Categories:** Waste Water

**Keywords:** fouling, membrane bioreactors, wastewater

**Start Date:** 03/01/2003

**End Date:** 02/28/2004

**Federal Funds Requested:** \$20871.00

**Matching Funds:** \$17306.00

**Congressional District:** Alaska

**Principal Investigators:** Schiewer, Silke (University of Alaska Fairbanks, WERC (Water & Environmental Research Center))

**Abstract:** The use of membrane bioreactors in wastewater treatment can reduce the amount of contaminants discharged into sensitive Alaskan ecosystems. The process of membrane bioreactors for wastewater treatment offers the advantage of a very high effluent quality. Membrane fouling, which can cause operational problems, is the major challenge that this innovative technology faces. Therefore, research is necessary to alleviate this problem. The proposed project will contribute to a better understanding of reasons for fouling and investigate strategies to reduce fouling, for example by air sparging. In the first phase of this project, a membrane bioreactor equipped with an air sparging unit has been designed and manufactured, and is now operational. This reactor will be utilized for further investigations during the second phase of the project. Improved membrane bioreactor operation is expected to lead to an increased use of this environmentally beneficial technique.

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